REMARKS

Claims 1-4, 7-20, 71, 74-81, and 85-93 were pending and stand rejected. Claims 7-8, 20, 85, 91, and 93 have been cancelled. Claims 1, 71, 86-90, and 92 have been amended. Claims 94-111 have been added. Claims 1-4, 9-19, 71, 74-81, 86-90, 92, and 94-111 are pending upon entry of this amendment.

Claims 1, 4, 7, 9-10, 12-18, 20, 71, 74-75, 77-78, 85-86, 88, and 90 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Grinstein. Applicants respectfully traverse.

Claims 7, 20, and 85 have been cancelled.

CLAIM 1

On May 2, 2007, the Examiner and the undersigned attorney had a telephone interview during which they discussed claim 1 (as previously pending) and Grinstein. No agreement was reached. The substance of the interview is set forth herein.

As amended, claim 1 recites:

> In a computer-implemented animation system, a method for animating an object, the method comprising:
>
> receiving a first input, the first input specifying a first parameter behavior, the first parameter behavior indicating how to change a value of a first parameter over time, wherein the first parameter applies to one element of a group consisting of a filter applied to the object and a generator applied to the object;
>
> animating the object by changing the value of the first parameter over time according to the specified parameter behavior; and
>
> outputting the animated object.

As recited in claim 1, a "parameter behavior" indicates how to change, over time, a value of a parameter of a filter or generator that is applied to the object. As explained in the application, a filter is an image processing effect (¶1627), and a generator is a repeating image (¶1567). A filter or generator can be customized using a parameter. The value of the parameter affects the filter or generator, which in turn affects the appearance of an object. For example, a filter with a parameter value of 1 will result in a different appearance than the same filter with a

parameter value of 10. The value of a filter's parameter or a generator's parameter can be programmatically animated (i.e., changed over time) by using a parameter behavior (¶¶245, 248, 487). This results in different appearances as time goes on, based on the different values of the parameter.

Grinstein discusses modeling motion in computer applications (title). Grinstein does not disclose, teach, or suggest the claimed element "the first parameter behavior indicating how to change a value of a first parameter over time, wherein the first parameter applies to one element of a group consisting of a filter applied to the object and a generator applied to the object."

Grinstein mentions neither filters nor generators. Thus, Grinstein does not disclose, teach, or suggest the claimed element "the first parameter behavior indicating how to change a value of a first parameter over time, wherein the first parameter applies to one element of a group consisting of a filter applied to the object and a generator applied to the object."

Therefore, claim 1 is patentable over Grinstein.

CLAIM 71

As amended, claim 71 recites:

A method for animating an object using a behavior, comprising:
outputting an original animation for the object according to a first parameter behavior, the first parameter behavior indicating how to change a value of a first parameter over time, wherein the first parameter applies to a motion behavior applied to the object;
concurrently with outputting the original animation:
receiving a first user input, the first user input specifying a second parameter of the motion behavior; and
receiving a second user input, the second user input specifying a second parameter behavior, the second parameter behavior indicating how to change a value of the second parameter over time; and
outputting an updated animation for the object according to the first parameter behavior and further according to the second parameter behavior.

As recited in claim 71, a "parameter behavior" indicates how to change, over time, a value of a parameter of a "motion behavior." As explained in the application, in one embodiment, a motion behavior changes an object's position over time, thereby animating the object (¶247). A motion behavior can be customized using a parameter (¶9). The value of the parameter affects the motion behavior, which in turn affects the animation of an object. For example, a motion behavior with a parameter value of 1 will result in a different animation than the same motion behavior with a parameter value of 10.

The value of a motion behavior's parameter can be programmatically animated (i.e., changed over time) by using a parameter behavior (¶402). This results in different animations as time goes on, based on the different values of the parameter. For example, consider the Drag parameter of the Orbit Around motion behavior (¶404). If the value of the Drag parameter is kept constant over time, the object moves in a regular orbit with a circular motion path (¶404; FIG. 34). If, instead, the value of the Drag parameter is increased over time (e.g., using the Ramp parameter behavior), the object's orbit slowly decays over time, causing the object to fall towards the center of the orbit with a spiral motion path (¶404; FIG. 35).

In Grinstein, a dialog box can be used to change the values of various motion parameters (50:16-53:6; FIGS. 9-29, 32). The dialog box includes tabs, such as Basic, Advanced, Temporal, and Specialized (50:38-41). Parameters are divided into groups, and each group corresponds to a tab (50:38-41). Another embodiment of such a "parameter window" is described at 57:46-58:39 and shown in FIG. 42. In the pending application, similar functionality is obtained by using the Inspector (¶¶318-322; 1518-1572).

Grinstein does not disclose, teach, or suggest the claimed element "receiving a second user input, the second user input specifying a second parameter behavior, the second parameter behavior indicating how to change a value of the second parameter over time."

The Examiner cited two portions of the reference for support. The first portion concerns the Sway controller (52:47-56; FIGS. 31-32) and the Wind controller (52:57-61; FIGS. 29-30). These controllers are used to set the parameters of various "controlled motions" (49:59-15). Specifically, the variable parameters of a controlled motion are derived from the controllers (49:61-62). Assume, *arguendo*, that the claimed element "motion behavior" corresponds to a controlled motion (a type of pre-defined animation) in Grinstein. The dialog boxes in FIGS. 29 and 32 do not enable a user to specify which parameter of a controlled motion to affect. Instead, the dialog boxes indirectly influence the controlled motion (49:60-61). Thus, this portion of Grinstein does not disclose, teach, or suggest the claimed element "receiving a second user input, the second user input specifying a second parameter behavior, the second parameter behavior indicating how to change a value of the second parameter over time."

The second portion concerns using the API to create a new Motion. First, a signal is defined that oscillates between -1 and 1 as a function of time (37:41-42). This signal is then used as the value for a new Motion's position parameter with respect to the X axis (37:42-45). Grinstein also discusses animating an object using the above Motion and then using the object's velocity as the value for a second Motion's position parameter (37:46-48). By definition, an API is programmatic in nature and does not include user input. Thus, this portion of Grinstein does not disclose, teach, or suggest the claimed element "receiving a second user input, the second user input specifying a second parameter behavior, the second parameter behavior indicating how to change a value of the second parameter over time."

Grinstein mentions several dialog boxes that can be used to change the values of various motion parameters (see above). Applicants note that each of these boxes allows only one value for each parameter. In other words, user input cannot specify how to change a value of a parameter over time.

Thus, Grinstein does not disclose, teach, or suggest the claimed element "receiving a second user input, the second user input specifying a second parameter behavior, the second parameter behavior indicating how to change a value of the second parameter over time."

Therefore, claim 71 is patentable over Grinstein.

CLAIM 86

As amended, claim 86 recites:

> In a computer-implemented animation system, a method for animating an object, the method comprising:
>
> receiving an input, the input specifying a behavior, the behavior indicating how to change a value of a parameter of the object over time;
>
> animating the object by changing the value of the parameter of the object over time according to the specified behavior; and
>
> outputting the animated object;
>
> wherein the behavior comprises one from a group consisting of a Snap Alignment to Motion behavior and an Align to Motion behavior, each of which changes a rotation of the object based on a motion path of the object such that the rotation is not changed if the motion path is straight.

Claim 86 recites, in part, "wherein the behavior comprises one from a group consisting of a Snap Alignment to Motion behavior and an Align to Motion behavior, each of which changes a rotation of the object based on a motion path of the object such that the rotation is not changed if the motion path is straight." As described in the pending application, the Snap Alignment to Motion behavior and the Align to Motion behavior are meant to be applied to a moving object (i.e., an object whose position parameter is changing over time) (¶¶460, 581). These behaviors change the rotation of the object to match changes made to the object's direction along its motion path (¶¶460, 581). These behaviors can be used, for example, to cause an object to face the direction in which it is moving.

In Grinstein, the "roll" primary reactive motion (47:8-9) causes an object to appear as if it were rolling. The roll motion comprises the "move" atomic motion (45:27) and the "turn" atomic motion (45:39). In other words, an object is caused to simultaneously shift in a direction and to

spin, thereby creating the illusion that it is rolling. The roll motion definition states that the object moves and turns relative to its position (47:8-9).

Grinstein does not disclose, teach, or suggest the claimed element "wherein the behavior … changes a rotation of the object based on a motion path of the object such that the rotation is not changed if the motion path is straight." The roll motion, which was cited by the Examiner, causes an object to rotate even if the object's motion path is straight. For example, if an object is shifting to the right, it spins in the clockwise direction. Thus, Grinstein does not disclose, teach, or suggest the claimed element "wherein the behavior … changes a rotation of the object based on a motion path of the object such that the rotation is not changed if the motion path is straight."

Therefore, claim 86 is patentable over Grinstein.

CLAIM 88

As amended, claim 88 recites:

> In a computer-implemented animation system, a method for animating an object, the method comprising:
>
> receiving an input, the input specifying a behavior to apply to the object, the behavior indicating how to change a value of a parameter of the object over time;
>
> animating the object by changing the value of the parameter of the object over time according to the specified behavior; and
>
> outputting the animated object;
>
> wherein the behavior comprises one from a group consisting of:
>
> a Drag behavior, which changes a position of the object based on a simulated friction; and
>
> a Rotational Drag behavior, which changes a rotation of the object based on a simulated friction.

Claim 88 recites, in part, "a behavior to apply to the object … wherein the behavior comprises one from a group consisting of: a Drag behavior, which changes a position of the object based on a simulated friction; and a Rotational Drag behavior, which changes a rotation of the object based on a simulated friction." As described in the pending application, the Drag behavior is meant to be applied to a moving object (i.e., an object whose position parameter is changing over

time) (¶623). The Rotational Drag behavior is meant to be applied to a spinning object (i.e., an object whose rotation parameter is changing over time) (¶731). These behaviors can be used, for example, to simulate the effect of friction on a moving object (¶¶623, 731).

In Grinstein, a "boundary" is a geometric entity that defines a surface or volume and that can interact with a Motion (18:17-19). A boundary can represent a graphic object, a virtual object, or a region of space (18:27-29). When a Motion's behavior is constrained by an interaction with a boundary, it is referred to as a "boundary behavior" (35:21-36:28). A boundary behavior is triggered when an object's trajectory crosses or encounters a boundary (35:32-36:12). Also, a Motion can have a boundary attribute, which defines a surface or volume that travels with the point defined by the Motion's position attribute (18:19-22).

Grinstein does not disclose, teach, or suggest the claimed element "a behavior to apply to the object … wherein the behavior comprises one from a group consisting of: a Drag behavior, which changes a position of the object based on a simulated friction; and a Rotational Drag behavior, which changes a rotation of the object based on a simulated friction." A boundary behavior's "gain" and "bias" parameters, which were cited by the Examiner, can be used to simulate effects of gain or loss of momentum (e.g., due to friction) (36:17-20). However, the boundary cannot be "applied" to the object (e.g., be a boundary attribute of a Motion applied to the object). If it were, then the boundary would travel with the object, and the object's trajectory would never cross or encounter the boundary (which is needed to trigger the boundary behavior). Instead, in order to trigger the boundary behavior, the boundary must exist <u>separate</u> from the object so that the object's trajectory can cross or encounter the boundary.

Thus, Grinstein does not disclose, teach, or suggest the claimed element "a behavior to apply to the object … wherein the behavior comprises one from a group consisting of: a Drag

behavior, which changes a position of the object based on a simulated friction; and a Rotational Drag behavior, which changes a rotation of the object based on a simulated friction."

Therefore, claim 88 is patentable over Grinstein.

CLAIM 90

As amended, claim 90 recites:

> In a computer-implemented animation system, a method for animating a first object, the method comprising:
>
> receiving an input, the input specifying a behavior, the behavior indicating how to change a value of a parameter of the first object over time;
>
> animating the first object by changing the value of the parameter of the first object over time according to the specified behavior; and
>
> outputting the animated object;
>
> wherein the behavior comprises a Spring behavior, which changes a position of the first object based on a position of a second object such that the first object moves back and forth around the second object.

Claim 90 recites, in part, "wherein the behavior comprises a Spring behavior, which changes a position of the first object based on a position of a second object such that the first object moves back and forth around the second object." As described in the pending application, the Spring behavior affects an object's position parameter (¶737). In one embodiment, the Spring behavior creates a relationship between two objects so that a first object with the Spring behavior applied to it moves back and forth around a second object by a specified distance (¶737). The second object thus serves as the target and center of the spring behavior (¶737).

Grinstein discusses using the API to create a new Motion called "harmonic." First, a signal is defined that oscillates between -1 and 1 as a function of time (43:43). This signal is then multiplied by an amplitude (43:42), and the product is used as the value for the harmonic Motion's position parameter with respect to the X axis (43:43-44).

Grinstein does not disclose, teach, or suggest the claimed element "wherein the behavior comprises a Spring behavior, which changes a position of the first object based on a position of a second object such that the first object moves back and forth around the second object." The

harmonic Motion, which was cited by the Examiner, changes an object's position based on an amplitude and an oscillating signal. The object's position is not based on a position of a second object. It follows that the object does not move back and forth around the second object.

Thus, Grinstein does not disclose, teach, or suggest the claimed element "wherein the behavior comprises a Spring behavior, which changes a position of the first object based on a position of a second object such that the first object moves back and forth around the second object."

Therefore, claim 90 is patentable over Grinstein.

CLAIMS 91, 93

Claims 91 and 93 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Miller. Applicants respectfully traverse. Claims 91 and 93 have been cancelled.

Claims 87 and 89 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Grinstein in view of Anderson. Applicants respectfully traverse. Additionally, for the record, Applicants traverse the Examiner's assertions concerning the motivation to combine Grinstein and Anderson.

CLAIM 87

As amended, claim 87 recites:

> In a computer-implemented animation system, a method for animating an object, the method comprising:
>
> receiving an input, the input specifying a behavior, the behavior indicating how to change a value of a parameter of the object over time;
>
> animating the object by changing the value of the parameter of the object over time according to the specified behavior; and
>
> outputting the animated object;
>
> wherein the behavior comprises one from a group consisting of:

an Attracted To behavior, which changes a position of the object based on a position of a second object while not affecting the position of the second object;
an Attractor behavior, which changes a position of a second object based on a position of the object while not affecting the position of the object;
a Drift Attracted To behavior, which changes a position of the object based on a position of a second object while not affecting the position of the second object; and
a Drift Attractor behavior, which changes a position of a second object based on a position of the object while not affecting the position of the object.

Claim 87 recites, in part, "wherein the behavior comprises one from a group consisting of: an Attracted To behavior, which changes a position of the object based on a position of a second object while not affecting the position of the second object." As described in the pending application, the Attracted To behavior affects an object's position parameter (¶592). In one embodiment, an object with the Attracted To behavior (the "attracted object") moves towards a second object (the "attracting object") (¶592). The second object thus serves as the object of attraction (¶592).

Grinstein discusses an Attraction Controller that has the parameters Strength, Direction, Location, Shape, and Focus (52:62-53:6). Although the Attraction Controller is not described, it is probably used to set the parameters of various controlled motions, similar to the Sway Controller and Wind Controller described above.

The Applicants agree with the examiner that Grinstein does not disclose, teach, or suggest the claimed element "a second object." It follows that Grinstein does not disclose, teach, or suggest the claimed element "which changes a position of the object based on a position of a second object while not affecting the position of the second object."

Anderson does not remedy this deficiency. Anderson discusses a data view of a modeling system (title). Anderson mentions that interaction between a pair of real-world objects causes the pair of shapes that represent them to be mutually attracted (12:19-30). Usually, when two objects

are mutually attracted, they both move towards each other. Anderson does not disclose, teach, or suggest that one object remains stationary. It follows that Anderson does not disclose, teach, or suggest the claimed element "which changes a position of the object based on a position of a second object while not affecting the position of the second object."

Thus, neither Grinstein nor Anderson, alone or in combination, discloses, teaches, or suggests the claimed element "wherein the behavior comprises one from a group consisting of: an Attracted To behavior, which changes a position of the object based on a position of a second object while not affecting the position of the second object."

Also, neither Grinstein nor Anderson discloses, teaches, or suggests the claimed elements "an Attractor behavior…," "a Drift Attracted To behavior…," and "a Drift Attractor behavior."

Therefore, claim 87 is patentable over Grinstein and Anderson, alone and in combination.

CLAIM 89

As amended, claim 89 recites:

> In a computer-implemented animation system, a method for animating an object, the method comprising:
>
> receiving an input, the input specifying a behavior, the behavior indicating how to change a value of a parameter of the object over time;
>
> animating the object by changing the value of the parameter of the object over time according to the specified behavior; and
>
> outputting the animated object;
>
> wherein the behavior comprises one from a group consisting of:
>
> an Orbit Around behavior, which changes a position of the object based on a position of a second object while not affecting the position of the second object; and
>
> a Vortex behavior, which changes a position of a second object based on a position of the object while not affecting the position of the object.

Claim 89 recites, in part, "wherein the behavior comprises one from a group consisting of: an Orbit Around behavior, which changes a position of the object based on a position of a second object while not affecting the position of the second object." As described in the pending application, the Orbit Around behavior affects an object's position parameter (¶676). In one

embodiment, an object with the Orbit Around behavior orbits around a second object in a circle (¶676). The second object thus serves as the center of the orbit.

Grinstein discusses orbital motion that traces an ellipse, with velocity varying along the path (43:64-44:15).

The Applicants agree with the examiner that Grinstein does not disclose, teach, or suggest the claimed element "a second object." It follows that Grinstein does not disclose, teach, or suggest the claimed element "which changes a position of the object based on a position of a second object while not affecting the position of the second object."

Anderson does not remedy this deficiency. Anderson mentions that interaction between a pair of real-world objects causes the pair of shapes that represent them to be mutually attracted (12:19-30). Usually, when two objects are mutually attracted, they both move towards each other. Anderson does not disclose, teach, or suggest that one object remains stationary. It follows that Anderson does not disclose, teach, or suggest the claimed element "which changes a position of the object based on a position of a second object while not affecting the position of the second object."

Thus, neither Grinstein nor Anderson, alone or in combination, discloses, teaches, or suggests the claimed element "wherein the behavior comprises one from a group consisting of: an Orbit Around behavior, which changes a position of the object based on a position of a second object while not affecting the position of the second object."

Also, neither Grinstein nor Anderson discloses, teaches, or suggests the claimed element "a Vortex behavior."

Therefore, claim 89 is patentable over Grinstein and Anderson, alone and in combination.

CLAIM 92

Claim 92 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Miller in view of Altman. Applicants respectfully traverse.

As amended, claim 92 recites:

> In a computer-implemented animation system, a method for animating a text object, the method comprising:
>
> receiving an input, the input specifying a behavior, the behavior indicating how to change a value of a parameter of the text object over time;
>
> animating the object by changing the value of the parameter of the text object over time according to the specified behavior; and
>
> outputting the animated text object;
>
> wherein the behavior comprises a Randomize behavior, which incrementally displays the text object character-by-character, wherein character order is random.

Claim 92 recites, in part, "wherein the behavior comprises a Randomize behavior, which incrementally displays the text object character-by-character, wherein character order is random." As described in the pending application, the Randomize behavior randomly generates different characters in a text object (¶1190).

The Applicants agree with the examiner that Miller does not disclose, teach, or suggest the claimed element "wherein the behavior comprises a Randomize behavior, which incrementally displays the text object character-by-character, wherein character order is random."

Altman does not remedy this deficiency. Altman discusses animations that control how a piece of text appears on a Powerpoint slide (page 3). Altman mentions that a slide title can be made to "type" on the screen one character at a time (p. 3). Usually, when a title is typed, its characters appear in order from left to right. Altman does not disclose, teach, or suggest that the characters appear in random order. It follows that Altman does not disclose, teach, or suggest the claimed element "wherein the behavior comprises a Randomize behavior, which incrementally displays the text object character-by-character, wherein character order is random."

Thus, neither Miller nor Altman, alone or in combination, discloses, teaches, or suggests the claimed element "wherein the behavior comprises a Randomize behavior, which incrementally displays the text object character-by-character, wherein character order is random."

Therefore, claim 92 is patentable over Miller and Altman, alone and in combination.

Additionally, for the record, Applicants traverse the Examiner's assertions concerning the motivation to combine Miller and Altman.

CLAIM 94

Although new claim 94 has not been rejected, Applicants note the following:

Grinstein does not disclose, teach, or suggest the claimed element "receiving a second user input, the second user input specifying a first parameter behavior, the first parameter behavior indicating how to change a value of the first parameter over time." This language is similar to that recited in claim 71 ("receiving a second user input, the second user input specifying a second parameter behavior, the second parameter behavior indicating how to change a value of the second parameter over time"). Claim 94 is patentable over Grinstein for at least the same reasons that claim 71 is patentable over Grinstein.

OTHER CLAIMS

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Grinstein in view of Walton. Claim 8 has been cancelled.

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Grinstein in view of Land. Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Grinstein in view of Gagne. Claim 11 stands rejected under 35 U.S.C. § 103(a) as being

unpatentable over Grinstein. Claim 19 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Grinstein in view of Anderson. Claims 76 and 79 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Grinstein in view of French. Claims 80-81 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Grinstein in view of Sowizral.

Applicants respectfully traverse. The claims not specifically mentioned above depend from their respective base claims, which were shown to be patentable over Grinstein. In addition, these claims recite other features not included in their respective base claims. Thus, these claims are patentable for at least the reasons discussed above, as well as for the elements that they individually recite.

Applicants respectfully submit that the pending claims are allowable over the cited art of record and request that the Examiner allow this case. The Examiner is invited to contact the undersigned in order to advance the prosecution of this application.

Respectfully submitted,
GREGORY E. NILES, ET AL.

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By: /Sabra-Anne R. Truesdale/

Sabra-Anne R. Truesdale, Reg. No.: 55,687
Fenwick & West LLP
Silicon Valley Center
801 California Street
Mountain View, CA 94041
Tel.: (650) 335-7187
Fax.: (650) 938-5200